

TomMarvel

Interviewer 1: Okay, it's March 6 and we are here with Tom Marvel. So, first I would like to ask you what is – what's your main target in fisheries and how has that changed over time and just kind of, get a background on your fishing experience?

Tom Marvel: King mackerel grouper and snapper and that has not changed over time. 30, 40 years that's what I've been doing, since 1979.

Interviewer 1: Are you from Naples?

Tom Marvel: Yes, since I was 12. We moved here in '69.

Interviewer 1: And what I wanted to talk about is red tide, kind of starting at the first red tide you remember. And then moving forward from there and then we'll talk about past event. So, what is the first red tide?

Tom Marvel: It would have been after we moved here in '69 and before I went away to school, that was '75. So, it would have been in the early 70's, '72, '71. I was not here in the summer so it had to have been a fall, winter or very early spring event. And to the best of my knowledge it was late winter or spring event but I could be wrong on that. But it definitely was not in June, July or August.

Interviewer 1: What did you notice?

Tom Marvel: This was a beach, I didn't – I was not fishing, I was only 14 or 15. But just the fish kill on the beach. And it was impressive because there were a lot of Jewfish, snook, Just it was a broad array of everything, it was massive. But again, it was strictly on the beach and I had no idea what it was offshore.

Interviewer 1: Do you remember how long it lasted?

Tom Marvel: No. And at that time my father was king fishing out of here. [00:02:00] And in that same timeframe '70, '70 to '75, there were couple instances that maybe overlapped with the event I remember from the beach where - when we went offshore trolling we had to go through the red tide to get to where we were trolling, kingfishing. But it didn't impact the king fish that the red tide had to inshore of, say 50 feet of water, which would have been 16 miles, it was 15 miles. So that event that I'm thinking of was near shore events, somewhere in the mid, you know, early 1970s, '72, '73.

Interviewer 1: Did you notice - Okay, so you said Jewfish and what other species?

Tom Marvel: Snook, a lot of snook, Jewfish, obviously the most common that you get almost always is the catfish. Little like grunts, mojarra, the little sand brim, but this one had a vast array. I remember seeing the some mackerels, like little Spanish, not king mackerels but Spanish. But I don't have a clear recollection of when I was with my father trolling going through it what was on the surface. I suspect that would have been

groupers. The one that sticks in my mind is on the beach and just, you know, anything you wanted [indiscernible] [00:03:19].

Interviewer 1: Do you remember your dad have said, you have to change anything and [Overlapping conversation] [00:03:24]

Tom Marvel: No, I remember when you punch through it, it was just we wondered if it was going to impact this but by the time we got to where we were trolling, the water was fine. But it was close, it was, you know, went out probably over 10 miles, that one was the same time event.

Interviewer 1: Did you notice kind of the health impacts of where you are, you know, did you have watery eyes or anything like that? Okay. What about after that, was kind of the next event?

Tom Marvel: Well, I came back from school in '79 and started fishing right away. And [00:04:00] I don't know, I don't – I mean, we always have had like little pop ups of the stuff but I can't pinpoint a year. And I can't pinpoint one that in this early time in the late 70s and early '80s that was particularly bothersome. But by the time we got to the late '80s, it seemed like in the fall we were having these events of odd looking water or like coffee colored water that we assumed was that coming out of the Coosawhatchie.

Interviewer 1: That was what?

Tom Marvel: That we assumed was coming out of the Coosawhatchie because it seemed like the water would get browner and funkier looking the more to the north we went.

Interviewer 1: So, that still back in the '80s?

Tom Marvel: I would say the late '80s at this point early '90s. And I was – they start trolling for kingfish in mid-November. And we would see this stuff till the water got really cold till mid-December and then it would clear up.

Interviewer 1: So, let's try to kind of map out some of those areas. And I know it's – I mean, to the best of your ability but where was the beach that you remember seeing the fish going? [Overlapping conversation] [00:05:22]

Tom Marvel: This is where I live.

Interviewer 1: So, just go ahead and draw that area. And then the smaller like pop-up events that you remember in the '80s and the '90s. How long did those usually last?

Tom Marvel: Less than a month.

Interviewer 1: Less than a month?

Tom Marvel: Yeah. Around, I would say around a month. [00:06:00] It culminated, it really impressed us is when we had the blackwater event. And that was probably in the mid '90s or late '90s and you should be able to find a reference to that, because it made newspapers, it was a, you know, well documented thing. And I don't think they ever figured out exactly what the cause was. But I think the common knowledge was, it was about an algae bloom that when the algae died, sucked the oxygen out of the water, it just turn very, very dark, almost black. And that event sort of started up here and it went all the way down to all Everglades City, almost, I think to the Keys. But you should be able to see documentation of that in public records, in the press, because I know what was and we are reading articles that make the sale in news probably.

Interviewer 1: Which year?

Tom Marvel: Blackwater. I don't know, I'm going to have to say in the '90s.

Interviewer 1: And where did you see it, do you remember?

Tom Marvel: It was widespread, it was inside of – I would say inside of 60 feet of water that would be the edge of your chart. It was not off-, well offshore that I saw. And it was from straight off in Naples all the way down to Everglades City. And I think they said they saw Naples issues with it all the way into the Keys.

Interviewer 1: We've got, we got Naples here and then...

Tom Marvel: Marco, Everglades City is here.

Interviewer 1: Everglades City is down there.

Tom Marvel: I mean it would be even as far down as down here.

Interviewer 1: Okay.

Tom Marvel: So, you know what you have the Keys will be right about here, Key West is here. Well, let's do with the big chart.

Interviewer 1: Yeah.

Tom Marvel: It's easy enough to show you on that.

Interviewer 1: Yeah.

Tom Marvel: And I believe that we heard lobstermen in the Keys complaining about it that, you know, even north of the Keys, the water turned really dark. And you know what exactly it impacted their stuff but it killed everything on the bottom but I don't know any of that. But we did not see dead floating fish in that. [00:08:00] And that's one thing for sure, there were no floating fish.

Interviewer 1: Did that impact the fisheries at all?

Tom Marvel: That's a hard, difficult question because I recall actually catching fish occasionally in it. But whether king mackerel I in it, but whether it – that was just a handful of fish that showed in there, it would have been more, I have no way of knowing. So to say if it impacts it without a solid point of reference, it's a difficult question to answer. If you see what I mean?

Interviewer 1: Yeah. And how long did that last?

Tom Marvel: That was pretty long. That was a wintertime thing or fall and early winter. And it was, I want to say months. Months. And I think the general sense was that it originated sort of up here and then just sort of drifted right down to the Keys. I'm surprised you haven't heard of that because it was – that was big. I mean, you wouldn't have heard of it at the time it was too long ago, but...

Interviewer 1: Yeah. I know that, it hasn't come up. You are the third person we've spoken to in Naples.

Tom Marvel: Did they mention that?

Interviewer 1: Yeah.

Tom Marvel: Have you tried googling Blackwater event?

Interviewer 1: I haven't but we're going to look into it now and see what articles we can find on that.

Tom Marvel: I'm almost certain it was in the paper, they put planes up to try to map the extent of it. And that no one knew what it was.

Interviewer 1: Okay. Well definitely when we move to this one will draw it out on here and look at it and see what we can find on that too.

Tom Marvel: So, gradually through the late '80s and into the '90s, the fall, the fall water would, I don't know if it was an issue, but we just noticed every fall almost on a regular basis, we would have these algae blooms. And either the water would be sort of dark or a funding green, or it would be a yellow green, which is at other that other algae, I don't know the name of it and then you obviously have spots of red tide. Normally, the talk that we get was that the red tide was more virulent up to the north [00:10:00] of a Charlotte Harbor, Sarasota, St. Pete. It seemed like those guys would be screaming more than what we saw down here.

Interviewer 1: Yeah. So, what's the smaller pop-up events? Spatially, where did you...?

Tom Marvel: In the fall, when we were trolling and we didn't like the look of the water it would be – what do you want me to do with this?

Interviewer 1: Let me think.

Tom Marvel: Make a circle or just...

Interviewer 1: Yeah, circle on that. I'm going to take this – all the information that you give us and I'm going to digitize it and put it on the computer. So, circles are good.

Tom Marvel: Yes, you don't [indiscernible] [00:10:33] here everybody could be...

Interviewer 1: So, we can go, we can use – see, if you think that's another thing we should draw on the other one then let's do that.

Tom Marvel: And this is where – see, you don't really have a fishing [indiscernible] [00:10:51] and this would be that off colored water, like brown and get these blooms of yellow, yellow and that kind of stuff. Which I think I can get you the species is that if I have that sheet at home, I wish I have brought that.

Interviewer 1: So, that's not red tide?

Tom Marvel: It was not red tide, absolutely not. Now that thick, the ones algae that turns the water yellow, what happens is late in the day if it's very calm the stuff seems to get thicker towards the surface, float to the surface. So if you had say on our charter boat if you had to live well, with a bunch of kingfish in it and went through that stuff, it would kill the kingfish.

Interviewer 1: Yeah.

Tom Marvel: Because they're so concentrated, you have 50 kingfish in a little, little live well. And when you go through that, but the water, it was concentrated in the top six or eight feet because when you are trolling your propeller makes a wheel wash and you could see green water coming up through it. And early in the morning, it wouldn't be as bad but late in the afternoon if the sun was on it, and there was no wind or it was calm, it would just turn the water just yellow.

Interviewer 1: Yeah. And this [00:12:00] yellow, green algae blooms that's once a year during this summer?

Tom Marvel: Always in the fall. No, not in the summer. And algae bloom is associated with it after the first cold front.

Interviewer 1: Okay.

Tom Marvel: Because if you, you know, like in lakes or bodies of water when, you know, you have summer and the water gets stratified with the warmer water on top and it doesn't want to mix, but you chill the top quarter and it'll want to sink the bottom comes up. Just seemed like that was – but it also would coincide with the end of our rainy season too.

Interviewer 1: Yeah.

Tom Marvel: So I don't know, I just assumed it was a flip flop and of the first cold front.

Interviewer 1: Yeah. Did you think that these blooms had anything to do with the red tide that you saw?

Tom Marvel: They would occur a lot of times concurrently.

Interviewer 1: Okay.

Tom Marvel: But you know, if they are different organisms, I don't know how you could say one would cause the other. But what maybe would trigger this would be the same triggering mechanism that for the others.

Interviewer 1: Yeah.

Tom Marvel: Same idea, a bunch of nutrients to the right water temperature, you know, stuff like that. But these were nontoxic in so far as we would not see dead fish. And then through the years we would get red tide events and normally like I said, it was off Boca Grande. And a lot of times we'd see floating fish that they would be so decomposed, we were suspicious that they died, you know, up to the north of us. But you know, every few years you'd have an event that you would go through and you'd see fish doing donuts on the surface and obviously fresh fish. And this would be from 2000 to present and was it every year, I have no idea.

Interviewer 1: So, '80s and '90s, the pop-up events that would last less than a month?

Tom Marvel: Over a month or be over, clearly over by the start in November, and be clearly done by mid-December.

Interviewer 1: Okay. And for those – did you, what fish did you see, what did that kill?

Tom Marvel: Well, whatever your mixed offshore would not be the macros, you would see [00:14:00] primarily again those small grunts, this tomcats like cats. I guess you call them their spot tails, we call them lot of catfish and grouper, you would see some grouper, right now. But different boats would give you different reports depending on exactly where they cut through. For the most part, it seemed like it was not as heavily grouper concentrated as it was those little kingfish, stuff like that.

Interviewer 1: When you did see grouper were they large, like adult grouper, were they sometimes smaller?

Tom Marvel: Well, they would be smaller in general anyway because we re dealing with less than 60 feet of water.

Interviewer 1: So they could be juvenile grouper?

Tom Marvel: Well, if it's why do you calling them a juvenile grouper?

Interviewer 1: Well, just trying to – so, I'm currently leading the red grouper stock assessment and the way that with any assessment, we incorporate the red tide.

Tom Marvel: Alright.

Interviewer 1: But we have to give some activity patterns. So, we have to tell the model what age, you know, what size classes or age classes of red grouper are being affected? So, most of the observations we have sometimes are from the, you know, offshore, you've go through a fish kill and you see these really large groupers. But it's hard to be able to quantify that. So, if these are maybe, you know, have you seen really small ones? Have you seen just any sort of size information, if they're...[Overlapping conversation] [00:15:22]

Tom Marvel: The majority of the fish, you would see would be less than 18 inches.

Interviewer 1: Okay.

Tom Marvel: Majority. But that also is a function of the depth in which the thing is occurring because you go out eight miles and you bought them fish before all these events. I mean, like two years ago, you would be catching more some 18 fish and equally appropriate. So, I don't know if it's a function of the mortality due to the size or just the availability of the size.

Interviewer 1: Right.

Tom Marvel: You see what I mean?

Interviewer 1: So, the spatial overlap of where it's occurring with what sizes are there – yeah.

Tom Marvel: So - yes, the majority would be smaller. But then we now - and you see an eight pound or nine pound are floating. [00:16:00] And as more red grouper and gags but occasionally...

Interviewer 1: Have you have seen that gag?

Tom Marvel: Yeah, but not many, not many.

Interviewer 2: And this is even back in the '80s?

Tom Marvel: Yeah. Now, you are going, when you go back that far though the memory gets fuzzy, they were just stayed that spotty events with the brown water is sort of taking us from the late, late '80s up to, say 2000.

Interviewer 2: Okay.

Tom Marvel: In the brown water, we get more consistent in the late '90s. And then the 2000s it was like every year, you would have sort of coffee colored water and or this yellowish, whatever it was. Red tides would pop up intermittently here and up off the charter boats off of Boca Grande screaming that it's just horrible. You wouldn't see many in north, when would it would come then you see a bunch of dead fish that are decompose, we assume they floated down. Then, you know, you go out two weeks later and you see little fish doing donuts and you will see the Man-o'-War birds dipping on them. And then two weeks later that event is gone, you know, I don't know, it didn't seem like it was that long lasting and it didn't seem like it was that big a deal.

Interviewer 1: So, for you going out in your commercial fishing, it wasn't an issue for you?

Tom Marvel: As far as it wasn't an issue because I don't - insofar as my immediate snapshot of what was going on - no, absolutely no. Now the king mackerel - I mean, we were fishing in that yucky water, we fish shower for that grouper as much further offshore. But honestly, in that yellow water, there were days we caught fish. Like I said, it was a surface event when, you know, I don't mean surface that there's another algae we get out there, that's a reddish thing that I think it's the, you know, [indiscernible] [00:17:47] you know, the body wall of them that they just float in dead calm weather and it's almost like they'll their name it, but it's just literally on the top that's been there forever. And I don't think it has anything to do with that. [00:18:00] This stuff is yellowish thing would be concentrated [indiscernible] [00:18:04].

And then in the morning when the water would have a funny colored to what the reason I knew you're in it is you're going along because it, it's looks a little funny, everyone you could take your sunglasses on and off. And looking at it, it's almost like you were having tinted lenses, a yellowish tint.

Interviewer 1: Yeah

Tom Marvel: So - yeah, water doesn't look right and we've started to comment. And then by afternoon as the sun - I don't know if this, it's phototropic and it gets to the surface. But at the top of it, that it just grows but we would catch in that stuff.

Interviewer 2: So, did that change at all from back, from the '90s when you started noticing in the fall, kind of this weird or color out there or the yellow algae or brown?

Tom Marvel: Has that changed me?

Interviewer 2: Yeah. Is that still...

Tom Marvel: No, that was fairly consistent. For some reason this year, we didn't really have the brown water. We did have that yellow stuff, a lot of that. And - no, I can't say that has changed that much. As every year you are going to have some sort of funk out there. And it's almost guaranteed in November, you go out and it just the water just doesn't look right. This year the duration of it was much longer. Well, in other words, just funky looking, just green [indiscernible] [00:19:31] yellowish green I don't know, it's just look weird. But again, we caught some fish, we caught fish but our run was different than other - like, you don't get to hear now, we're jumping out of here.

Interviewer 2: Where, we are jumping ahead but I just want to clarify what you just said that you've noticed this yellow water for a long time in the fall. And then this past year is the first year you've noticed that lasting over a month or...?

Tom Marvel: Yes.

Interviewer 2: Okay.

Tom Marvel: The first year, [00:20:00] probably that definitely it was the longest this year, yes, without question.

Interviewer 2: Okay. So, let's go back to, you know, we kind of covered red tide up to early '90s. What's kind of...?

Tom Marvel: Well, this yellowish water in that thing I just really take it to 2000.

Interviewer 2: To 2000?

Tom Marvel: Mm hmm.

Interviewer 2: And up to 2000 that's still red tide happening and it only lasts for about a month and you can avoid it and it's not a problem and it doesn't affect your fishing?

Tom Marvel: A lot of times it's a near shore event. A lot of times even in the winter, in the spring when we were coming in again and you have these go-fast boats go by that area in the water and throw a lot of spray, you'd feel the cough in the bays. We'll be offshore fishing and be fine, and you read there's a little fish kill off Clam Pass. It just seemed to be maybe small events, you know, tiny events. But offshore, once until this year, once - certainly by January 1st, but really by December 15 or December 1st. Once

that rolled around offshore, you never saw, you know, it always be fine, expect for Blackwater event.

Interviewer 2: Right. So, what about the 2000s? Were there any years specifically, in the past 20 years that stood out as being bad red tide years?

Tom Marvel: I don't know.

Interviewer 2: No, I mean, it's whatever, you know, whatever your experience is?

Tom Marvel: I mean, I'm sure there were some that were worse than others. But again, you have to remember that what I do for the most part, for most events is offshore.

Interviewer 2: Okay.

Tom Marvel: So, they could have a wicked red tide event on the beaches where they are bringing them bulldozers and stuff but if it stops at eight miles, you know, I kind of punch through it - fishing, what we normally do.

Interviewer 2: Okay. So, it hasn't affected your fishing?

Tom Marvel: Well, it hasn't. It didn't insofar as I know, that's what I was trying to tell you. [00:22:00] If there's a mortality of juvenile red groupers, I'm going off 90 miles. I mean, the mortality that you experience in 06, when I go out in the spring about seven, I'm not going to see any difference. But maybe by 012 or 015 it could, I have no idea, that's just few speculation. I do know grouper fishing now is as bad as I've seen it since right before the long line restrictions, since about 1990.

Interviewer 2: So, you've noticed the decline since 1990?

Tom Marvel: No. Since 1990, it was horrible and by 2000 it was better and then...

Interviewer 1: Just now, it's just awful.

Tom Marvel: 013, I think it was just ridiculously good for red grouper. And it was just phenomenal, and it was like, it's light switch. So, I am not 100% sure, there's a direct relationship between the tide events and what happened with the groupers. But maybe you can try on that how - I don't know. So to ask a fishermen if that's affected him - I mean, the guys who could really say it's affected if you have a charter boat and you go to where you normally charter fish and it's a bunch of dead fish and it smells and you catch nothing, that's an obvious effect.

Interviewer 2: Yeah.

Tom Marvel: That really has never, never happened to me until potentially this year.

Interviewer 2: Okay. So, let's talk about this year. And if we drew on this map, where you saw red tide this year and then we'll go over with the larger chart.

Tom Marvel: Well, the red tide are the weird water. Because they'd be in a mixture of red tide maybe in a pocket that blew the fish into the weird water and the weird water you are fishing, maybe catching a little bit, but it's just - I mean, the ugly water, it was particularly bad. We ran south of the Marco. It was patchy yellow water. [00:24:00] I mean, it was patch of this yellow water that lasted well into January. And then south of it, it cleaner and in fact this would even go south to a point of probably the 25, I'm going to say the 25, like 35 line. Well, this is 45 and I think it is 40, it's probably down as far as the 25 - oh, 35, 25, 35 line. And that would be due to the yellow, yellow water, fish kill in it. Often on we'd see fish that I think we are blowing in - not bad, it was just this water was definitely just off [overlapping conversation] [00:25:11] dead fish.

Interviewer 2: This is from when to when?

Tom Marvel: This was January, really this pocket didn't start to look pretty until either the first of February or the end of January. And I just started, I was fishing out front until Christmas. So, this could have been here well before January and I wouldn't know it. You know what I mean? We work - this year we started out here and the water didn't look right, but we still caught some fish in it. And then they just bypassed Marco and we caught fish of our king mackerel that would be just 40, 35, 30, 25 down about here.

Interviewer 2: Yeah. Let's get on that [00:26:00] other chart.

Interviewer 1: Because I think that's...

Interviewer 2: Where a lot of a that we are of talking about. Unless there's anything else with algae blooms or red tide that you think is really super specific to this area?

Tom Marvel: Specific, no.

Interviewer 2: Okay. So, let's go [indiscernible] [00:26:18] the other one.

Interviewer 1: And by January of this - this is different year?

Tom Marvel: Well, as I didn't go through that pocket until January of this year.

Interviewer 2: Of this year?

Tom Marvel: Right. Well, yeah. I mean, when I grouper fish, we go out - I mean, you punch through all this stuff and we're way out there [indiscernible] [00:26:38]...

Interviewer 2: [Indiscernible] [00:26:42]

Tom Marvel: So, I don't know how long this was there before January. I do not know but I do know that in December when we were fishing the water just looked horrible everywhere you went. So, I would almost guarantee you this water was all funky up in December as well.

Interviewer 2: Yeah.

Tom Marvel: November too.

Interviewer 2: Yeah.

Tom Marvel: I mean, this stuff looks horrible in December. I mean, we got out to where we fish, was probably out about a year. And you know, it water wasn't perfect but it was apparently fishable because we caught some fish in it. There was occasionally going through in December, you'd see dead fish and then the wind would blow, they'd blow away. You go, maybe a week and not see some and then you'd see some again, as far as the water ever being like either it is solid with them, I can't say I saw that but not many groupers, but that could easily be a function of not many groupers there.

Interviewer 2: Okay. [Overlapping conversation] [00:27:48] spread it out over there just in case.

Tom Marvel: Now, what you should have done is [00:28:00] as this little [indiscernible] [00:28:01] we don't decompose them, we don't use it anymore. We get inspected and they want us have [indiscernible] [00:28:13]

Interviewer 2: Okay, let's get this. I want to [indiscernible] [00:28:17]

Tom Marvel: Yeah [indiscernible] [00:28:20]

Interviewer 1: That's a great a question. I don't know if [overlapping conversation] [00:28:24]

Interviewer 2: But I had one of those Leatherman tools in my car that I was taking underline those maps. Thank you.

Tom Marvel: So, is this part of the stepped up stock assessment that the council ask for on red grouper?

Interviewer 2: What we are doing right now?

Tom Marvel: What you are doing?

Interviewer 1: I'm currently working on the benchmark or the standard assessment. So, basically redoing the model we've done last time. We did do sort of an interim analysis

to see how the recent changes are, that actually was done and that's now being – they are going to be proposing change to the ACL. Actually, based on [00:30:00] 2017 landings.

Tom Marvel: Based on the landings?

Interviewer 1: Yeah. So, the two options were the analysis, the interim analysis we did. And then the SSC had said, well, let's compare what number comes out of that with 2017 landings. They were very similar but I think the landings are slightly lower. So, they want to [overlapping conversation] [00:30:19]

Tom Marvel: And did it show issues?

Interviewer 1: It, yeah, it showed that the ACL should be a little lower than what it was. I think that everybody agrees on that, I mean that's...

Tom Marvel: Is the interim primarily doing catch driven, like catch driven?

Interviewer 1: What we did is we looked at the trend in the name spot, a long line survey that they run and basically the change in that index. So, an index of what's going on with population was taken to be as, you know, that's reflective of what's happening out there. So, abundance is lower and we are going to take the catch, scale the catch down based on that index, the change in the index.

Tom Marvel: And any change in size frequencies or anything...?

Interviewer 1: That wasn't considered but we do have a lot of size information, the assessment. And I tell you all the [indiscernible] [00:31:08] from the various surveys we run, they are all down. There's a lot of....

Tom Marvel: What catch independent surveys do we have, that online survey...?

Interviewer 1: They are online. We have – no, but we have a combined video survey, that's the State of Florida plus Panama City plus the Naples. So, that's covering the whole area, we have the sea map groundfish survey, which actually catches the smaller red grouper.

Tom Marvel: That would be the by catch of the shrimp?

Interviewer: Yeah. And then we have FWRI, did a Hook and Line survey recently. So, from 2014 on.

Tom Marvel: I did that with Brett Dunk.

Interviewer 1: Yeah. So, that's going to be in the assessment as well. So we're, you know...

Tom Marvel: That he's back his timeframe for that's kind of short. Does any of this stuff extend past down south of the 26th line? Because we've - I've never seen this year who does the [indiscernible] [00:31:57] probably just contracts a long liner to pull this standardized index gear, right? So, you wouldn't know by looking at wouldn't be a [indiscernible] [00:32:07].

Interviewer 1: I believe the big white ship does the bottom long line survey.

Tom Marvel: Because I never see it.

Interviewer 1: But they do it from the Atlantic all the way around the Gulf. So - yes. So that surveys in our area, I believe in August and in September. Yeah, there is - stay tuned you'll hear more about the red grouper...

Tom Marvel: If there's something wrong though because the stock should not fluctuate - a stock such as red grouper with their long lived, slow growing, high fecundity, reproducing year after year after year. That's they shouldn't fluctuate like that. You would expect it from mackerels, grunions, salmon, but not something this commercial bottom fish.

Interviewer 1: Now, there's something out there, something is wrong.

Tom Marvel: Okay.

Interviewer 1: We'll get to the bottom of it.

Tom Marvel: What you guys hear, you hear a lot of theories, right? Crackpot theories?

Interviewer 1: We hear a lot, yeah.

Tom Marvel: And then most of them I've heard of in the council, I'll get back to you. Sorry. This is just [overlapping conversation] [00:33:03] more interesting.

Interviewer 2: Yeah, I know this is what happens [indiscernible] [00:33:07].

Tom Marvel: So, and I've heard most of them are goofy.

Interviewer 2: Okay.

Tom Marvel: But the only thing that this coincides with this drop, I would say, we had the big January cold front, always 16, a huge run. And fishing up till then in the fall of 15 and early 16 was phenomenal. And that big storm event push the red groupers off shore, but strong enough so we still get a big enough ground, so it just sends them off. The offshore boats just did great but the catch doesn't show that that exceeded ACL or anything, so it shouldn't have been an over harvest issue. But that coincides with this huge issue we thought we have with lionfish.

And to my knowledge, I don't know if anyone that's done a study for what happens to a grouper, would have been just a lionfish. I don't know why a [00:34:00] lionfish would have venom that is targeted to another fish not a mammal. I mean, why would the venom only be for humans, why would you evolve that? If it's a protective thing it should be against other fish. So, new species, the red grouper or groupers are not pre-genetically programmed not to eat it. And we see them eat them all the time. I mean, they are always got them in their stomachs, decompose, they cough up live.

And I've asked several people in the science fields, have they taken larger grouper in a huge tank and fed it lionfish? And everyone says, no. So, is it conceivable that this January blow through a lot of our biomass offshore, which it normally does. They've encountered more lionfish and had a mortality event, such as that. And that's daffy sounding, but it's the only thing I – I mean, it was dramatic. Absolutely dramatic, everyone just slaughtered them and did well. And when the event pushed them off, and you could say, maybe that was it, maybe was, but we've had those events before. And, ever since then, it's just been a straight down, we're dropped.

Interviewer 1: So you think it's getting a reaction of line for fishing?

Tom Marvel: I'm wondering.

Interviewer 1: It could be a...

Tom Marvel: Because they eat them. Why would, I mean, in the Pacific, I don't think groupers eat lionfish. Otherwise lionfish were about as dossal, they say it's coming from right up to the Bay. They're not scared of anything, because they know they are poisonous, right? So, if red grouper and gags are eating them, did you get my point?

Interviewer 1: Uh-huh.

Tom Marvel: I mean, it doesn't make sense to me. And that's the only thing that has changed. The lionfish and the timing is roughly right, because they really peaked out, you know, coming into that timeframe. Everyone was saying there's a gazillion lionfish out there. Anyway...

Interviewer 2: That's what I think.

Interviewer 1: Interesting. Okay. So, first, let's draw where you saw the black water, okay? Or do that one?

Tom Marvel: All black.

Interviewer 1: Yeah. [00:36:00]

Tom Marvel: Do you really want where we saw the black water?

Interviewer 1: Yeah. It's okay, that's, yeah.

Tom Marvel: I think the only one with the Keys, they talked about it going through the channel cuts and killing them, killing sponges and stuff.

Interviewer 1: And that's sometime in the '80s?

Tom Marvel: No, I think it was in the '90s. I think it was in the '90s. This have been 18 years ago, I think. Possibly, the early 2000s, but I think it was in the '90s.

Interviewer 2: And that's the one you said might come out in newspaper articles if we do, yeah.

Tom Marvel: I'd be surprised, I could have sworn and could I read it. And if...

Interviewer 2: We can look into that?

Tom Marvel: Black water.

Interviewer 1: Do you remember what they said caused that?

Tom Marvel: No, I think – no, they had a guy, someone who's not scripts, who's our – they put on the scripts on East Coast, the big marine.

Interviewer 2: Which hole?

Tom Marvel: No, on Ice Coast.

Interviewer 1: Oh, Ice Coast? Harbor Branch?

Tom Marvel: Yeah, that biologist from there, I think they speculated that it was an anarchistic event, but I'm not sure on that. You know, there's an algae bloom, the algae dies, goes to the bottom, sucks the oxygen out of the system and the water turns, I mean, if you take water and you put up organic thing in it, like grass or anything, and you let it sit there, the water turns brown. Like it is the tan or something coming out of the organism as it decays, so.

Interviewer 1: Okay. So then, I'm interested in areas that you've seen red tide previous to this last year. So, the kind of smaller events that you noticed in the '80s and the '90s, where it would popped up, and you would notice that?

Tom Marvel: Well, do you want me to do Naples pass?

Interviewer 1: Yeah, so, and if you can draw essentially a circle around the area that you think that was affected?

Tom Marvel: Oh this is little, I'm used to see it right [00:38:00] there on the pass.

Interviewer 1: Uh-huh.

Tom Marvel: And then, see, I don't fish, this is all word of mouth from crabbers who go up there, but like, something like that. Let's do sort of construe where that could be worse to the north than to the south.

Interviewer 1: So that's mostly word of mouth for you then?

Tom Marvel: Well, this is where I would come out of, so I would see it and even, you know, closer to the beach, and then the crabbers, that I don't go up there, or the other, so the crabbers that would be up off Wiggins Pass and Doctors Pass goes must know this, would say oh, there's dead fish all over the place. And as a rule it seemed that would peter out, you know. What do you have? This is 40 foot of water, yeah, roughly in there.

Interviewer 1: Okay. So, what is the – why does it affect the Passes? because I've heard that where people are like all the passes have red tide in them? Is that – I wonder what have been affected.

Tom Marvel: Red tide at all is caused by introduction of nutrients and or nutrient loading where would you have that most frequently would be at the Pass.

Interviewer 1: Okay.

Tom Marvel: Right? Where an estuary or river is meeting the ocean is a pass basically.

Interviewer 1: That makes sense.

Tom Marvel: By definition.

Interviewer 1: So let's draw the area where you saw red tide in the last year. And let's use a different color.

Tom Marvel: Now, you wanted to – do we have to do just red tide or can we do the funky water?

Interviewer 1: We are going to do the funky water too.

Tom Marvel: Everything?

Interviewer 1: Yeah.

Tom Marvel: Because was where they'll change.

Interviewer 1: Okay. So, let's do the blue, let's keep the blue the same because that's where we drew the funky water on that map.

Interviewer 2: Yes, the funky color for funky water.

Interviewer 1: So let's draw where did you see the weird colors? [00:40:00]

Tom Marvel: Then last summer in September, bottom fishing. This is a small area of bottom fishing, no dependent, August actually, kind of late August.

Interviewer 1: Yeah, write all the details. So, when it was, what color it was, yellow? And now, you are bottom fishing?

Tom Marvel: Bottom fishing, yeah.

Interviewer 1: And that was in 2018?

Tom Marvel: Yeah.

Interviewer 1: Okay. And then, let's write prior to this one too.

Tom Marvel: Put off green system. It's hard to describe unless you see it.

Interviewer 1: Uh huh.

Tom Marvel: Because it's just...

Interviewer 1: And you said sometime it's brown too?

Tom Marvel: This year, we didn't have as much brown. No, this was more of, no, we actually don't see the coffee color water the last handful of years. It's more of this funk. This would have been far, it ran through...

Interviewer 2: Because when it occurs, it did not start up right here?

Tom Marvel: All of those we have, we got offshore this side [00:42:00]. This might be a smidgen expand up here. This again is, thing that you just said, a fisherman just makes you scratch your head which you will be able to do nothing, I don't think with. But I've been bottom fishing for grouper with these things since '79. And I've seen grouper throw up everything. Like, we made split boxes, pork chop bones, chicken bones, every type of species of fish you ever seen.

Interviewer 1: Uh-huh.

Tom Marvel: The one species I've never seen in 40 years, 30 some years is the ballyhoo, right? So this year, in that pocket, two red grouper at two spate spots caught up ballyhoo,

that we are clearly not thrown over by another boat, we kind of used this [indiscernible] [00:42:49]

Interviewer 1: Okay.

Tom Marvel: So, this yellow water, I'm speculating was toxic enough for a ballyhoo, but it killed the ballyhoo. Ballyhoo drifted to the bottom and recuperated. That's the only thing I could come up with. This yellow water behaves like the yellow water I described to you before, late in the afternoon they would get much denser on the top. But you will wash with it would show green, you know, like it was a layered event. You'd catch grouper and you'd be catching grouper in it. But you couldn't see them until they came to the water. But down below, it was clear. And I mean, it makes enough of an impression on someone that has fish that long have something, that unusual happened and we were just talking on the radio and it's a ballyhoo when you feels threatened, does knows nothing to do but a ballyhoo will never dive to the bottom. It's just, they just will not do it. So if you had a toxic stuff that was, or something that starved them enough, and he was struggling, he would just sit there until he died. You know, when you throw a net around ballyhoo, they all jump in the air. That's how they behave.

So, there's really zero chance that the ballyhoo went to the red grouper, the red grouper went to the ballyhoo. I mean, plus, I've never seen it too and I saw [00:44:00] the first one and I'm thinking, oh, you know, I looked at the ballyhoo real careful, the eyes is one like someone had cooked it, you know. I said, man, and then later in the day, a half a mile away the exact same thing. That was weird. So this stuff, you know, but it gets so dense in the afternoon that it maybe is an oxygen issue and probably just killed the ballyhoo when he floated down, you know.

Interviewer 1: Now, did you say, how many tens of thousands of stomachs have you, or a red grouper have you seen spit up their guts?

Tom Marvel: I mean, 30 years, it's 20,000.

Interviewer 2: It seemed?

Tom Marvel: It is. And when you get to be my age, you just don't see that many new things you do though. You do.

Interviewer 2: Yeah, this is pretty nature.

Tom Marvel: And so this is – so, it also would, it brought home the fact that this water is different than it ever had been. You know what I mean?

Interviewer 1: Yeah.

Tom Marvel: It just, if we had yellow events as a regular basis off there, someone, somehow, somewhere would have a ballyhoo. You know what I mean?

Interviewer 1: Mm hmm.

Tom Marvel: And, this water out here usually is pretty, pretty, pretty clean. I have seen this yellow water actually, now I'm thinking about way up off of Charlotte Harbor. But this would be going back in like the '90s or so.

Interviewer 1: I'm really interested in whatever air and colors you've ever seen on this or anywhere. Because you're not the first fisherman that we've talked to that's talked to me about yellow water.

Tom Marvel: Oh, you've heard it?

Interviewer 1: Yeah.

Tom Marvel: Oh, yeah.

Interviewer 1: Yeah, absolutely.

Tom Marvel: I remember this event – my God, I can't even do better than that. Struggling to remember so [00:46:00] 30, 26, 27, one year, we were out here. 26, this would have been early, okay, would it be summer, early 1990s. The reason I remember this is at that time we were having a gray barrel and we would catch with an electron net little baits for gag grouper fish. And, we were still catching enough gags and they weren't making that effort. Now, we don't even do with times earlier. So I had my gray tub full of these little baits, grunts and whatnot. We use the deck hose, stick it in there just aerate, you know, so you can get your gags bunch of [indiscernible] [00:46:55]. So we go through this funky yellow water same description as all these other yellows, gets to the top in the afternoon when, especially when it's really calm. And we get to the spot and every bait's dead. And so that's what triggered this in my mind. I remember that distinctly. I remember who the mate was, so I can kind of put me into the early '90s but that's all I can tell you. And I know where I was.

Interviewer 1: Can you write just kill the bait on there, on that spot? So, it is kind of toxic, it kills some bait fish and doesn't kill anything else?

Tom Marvel: You never see fish floating.

Interviewer 1: No, I don't.

Tom Marvel: Of course they all sink and grouper eat them like the ballyhoo, you would know, it's like, I'm convinced that's a concentration thing either depletion of oxygen or if it's not toxic per se if it gets thick, enough it is. Because the ballyhoo was basically like I said trapped and in the afternoon, I think the stuff it acts like it's sort of phototropic and if it's calm, oily almost in the afternoon sun that's when it's at it worst.

Interviewer 1: Mm hmm.

Tom Marvel: If it's choppy, it's almost like it keeps it mixed and you don't see it as much. So I think [00:48:00] it's either, it starves the oxygen or it gets so thick that on the surface because the only fish you'd have on the surface out there would be flying fish and ballyhoo.

Interviewer 1: Mm hmm.

Tom Marvel: Right? Or the two things. Now, I never had seen a flying fish in a grouper stomach either. But this was the live or it was obviously what happened with that and I'm pretty sure what the ballyhoo ate.

Interviewer 1: Mm hmm.

Tom Marvel: So, toxic or not, I don't know. And I think I have a sheet where they identified that organism. And I just didn't – I just was racing around like before I mentioned, I told you about that on my phone.

Interviewer 1: Yeah, no, I mean, I'd love to see if I'm (*overlapping conversation*).

Interviewer 2: Do you know what was a Cyanobacteria? Because I know there's like a, no, that's a blue green algae. There's a blue green algae, but maybe it makes the water yellow.

Tom Marvel: Cyano?

Interviewer 1: Cyanobacteria?

Tom Marvel: Yeah. But would it have been, I got the genus and species. So what are sign of bacteria is genus?

Interviewer 2: Oh, boy, I don't know.

Tom Marvel: We'll, see, if you give me your email, and I find it I can scan it and send it to you.

Interviewer 1: Yeah.

Tom Marvel: Because I distinctly remember I was sending it to the Florida Lab. And I had the little plunger for different depths that PVC, you know, thing and they give me a bottle some with iodine, some without, the ones without you have to keep cold or do something get him to them fast. I remember getting this, seeing this yellow stuff and getting that right in the middle of it. I mean, taking my sample right where it was thick. And they wrote back to me and said it was the highest concentration that they had ever seen of that.

Interviewer 2: Wow.

Tom Marvel: Whatever I'm not, you know, I don't know the numbers. But it was not a break or Sunday, and I know that for fact.

Interviewer 1: Yeah, we definitely like to know that. So, this is the yellow green water in 2018 and 2019. Previous to 2018, you said you used to see it in the fall?

Tom Marvel: Uh-huh.

Interviewer 1: Was it in the same area?

Tom Marvel: Almost always. Yeah. Well, this is where we fish in the fall.

Interviewer 1: Okay.

Tom Marvel: And we'd starting mackerel fishing on mid-November [00:50:00]. And this is where we go. So I can't talk about this area.

Interviewer 1: That's from – so, this is the same area from the '90s or the '80s that you fished?

Tom Marvel: Yes, this would be, yes, this is where we go. The other events of the fork water, just it would always happen. You could fish in it. But like I said, often by December 1st, and certainly by December 15th it was bad, water was just gorgeous.

Interviewer 1: Yeah.

Tom Marvel: And almost always by December 1st, it was gone.

Interviewer 1: Uh-huh.

Tom Marvel: But this year, you know, just study is pretty out there now.

Interviewer 1: So this year, it was wrong?

Tom Marvel: Into the winter.

Interviewer 1: Okay.

Tom Marvel: So, and we stopped fishing out here around Christmas, the fish just never settled in here, which I don't know if that was a function of that or not. We started to run down here. We would be fishing down there. We'd be in this funky water to, almost to where we got to where we were fishing.

Interviewer 1: Uh-huh.

Tom Marvel: And this lasted until, you know, well into January. I mean, maybe almost February 1st.

Interviewer 1: Okay.

Tom Marvel: And that, you know, maybe these pockets shrank a little bit. But at one point, we would leave where we were fishing and did not go far. And I don't know where the starting to look weird.

Interviewer 1: When you would see the yellow water here regularly in the fall before last year, would it be this whole area? Or would it be just some of that? Or passes? Or how did it look?

Tom Marvel: Tough as, no, actually, in years past, it would be more concentrated to the upper left of this.

Interviewer 1: Okay, so let's do...

Tom Marvel: So in other years, it would be [00:52:00] – I don't know we are going to putting a line there. I have no idea if a line should be there. Just, I don't go up there.

Interviewer 1: Yeah.

Tom Marvel: See what I mean?

Interviewer 1: Yeah, no, that's how, I mean, that's how all of these...

Tom Marvel: You are treating these things as discrete things. But they are discrete only because that's where I was.

Interviewer 1: Yeah. Well, like, you know, we talked to people in the shore and it's not like, red tide only happens in shore.

Tom Marvel: Yeah.

Interviewer 1: So we, you know, it all depends on who we are talking to and where they were their experiences. Okay. So let's draw red tide that you notice in the past year, and areas where you saw it, and also areas, if you notice that it didn't affect or you didn't see it.

Tom Marvel: No.

Interviewer 1: So, areas that you saw it affected and then I guess if there's any areas it didn't affect? So, we had fishermen tell us it doesn't get into the rivers, doesn't go into the Back Bay as much.

Tom Marvel: Well, I go from here to the pass. That's all my experience.

Interviewer 1: Yeah.

Tom Marvel: So that's far I've been to those.

Interviewer 1: Yeah.

Tom Marvel: Actually, we've had yellow water on the canal too.

Interviewer 1: Uh-huh.

Tom Marvel: I remember coming down to this little plows of yellow. So, red tide this year?

Interviewer 1: Yeah.

Tom Marvel: Truth with the matter is the actual red tide, just footprint of that from our standpoint wasn't that huge. I mean, I never saw dead fish here, here. Maybe a few going south way up at the top, I mean, the red tide would be, actually it did start on the beach. Maybe that's too deep. This is the different shots.

Interviewer 1: That's okay. We can – just whatever you think just kind of cross it out and redraw it if you want [00:54:00]. Okay.

Tom Marvel: Kind of come to close in, you get off shore, you wouldn't see the dead fish, but just in the front.

Interviewer 1: Uh-huh.

Tom Marvel: Make sense?

Interviewer 1: Yeah. So that's kind of just a little bit larger than the area that you saw, that you've heard about it in the past?

Tom Marvel: Yeah.

Interviewer 1: Okay.

Tom Marvel: And that's kind of like a zonal thing. It's kind of, I don't know, tide was always been, it's been usually inside of, almost always inside of 10 fathoms, and most the time inside of six or seven fathoms.

Interviewer 1: Yeah.

Tom Marvel: It's more or less a near shore event. I mean, traditionally, this funky are.

Interviewer 1: Did you ever see red tide offshore?

Tom Marvel: No.

Interviewer 1: Okay.

Tom Marvel: No, I've never gone through masses of dead fish.

Interviewer 1: And these and these areas, this is kind of your fishing area?

Tom Marvel: My playground. Yeah, my son is – what do we found, I've calculate it sort of like this.

Interviewer 1: Yeah.

Tom Marvel: That's mine. And I, you know, like this area, but I'm here in years, you know, it's like, I don't live out there.

Interviewer 1: Yeah.

Tom Marvel: And I spent one more time here, here, this is the last trip I was out. I was out here. Just around here. The water looks great.

Interviewer 1: So, you've been this past year, that didn't really impact you? You didn't have to change or adapt your fishing?

Tom Marvel: No. But again, that's a tough question, right?

Interviewer 1: Right. Uh-huh.

Tom Marvel: I mean, how do I know if I go out and catch, you know, little tougher to catch fish? Is it a red tide? Or not in red tide? Is that something [00:56:00] they've altered their patterns because they sense it? Or it's just, I'm in a wrong spot for whatever reason?

Interviewer 1: Uh-huh.

Tom Marvel: But I did not have to but we, I mean, we ended up fishing most of the time down here this year when the conditions up here, the temperature was, like they should have worked up here. But again, the king mackerel where they settle in is sort of something only they know.

Interviewer 1: Uh-huh.

Tom Marvel: And this year, they settled in down here, the net boats caught their quota, basically right here.

Interviewer 2: So they were basically in a different spatial area than normal, right?

Tom Marvel: No.

Interviewer 2: No?

Tom Marvel: No, they've been there a lot.

Interviewer 2: Okay.

Tom Marvel: Like even it was a relatively mild winter, we didn't get our cold until the third week in January. And normally, when the cold doesn't come to that late like, sometimes they settle in up here all winter.

Interviewer 2: Okay.

Tom Marvel: But they pick – there's been winters when it looks plenty warm up here. And they just, they love this area down there. But we were a little surprised. We kept sending some undrawn scrolls and sending some up there to try and they just struck out, struck out, struck out.

Interviewer 2: Uh-huh.

Tom Marvel: And, this water just took forever to get nice and whether there's a relationship, I have no idea.

Interviewer 1: Uh-huh.

Interviewer 1: And the red tide, how would you notice that? Would you see?

Tom Marvel: Most of the time, what we would do with the red tide is the fish and we get a clue, you almost smell it if it's at night, you know, the decomposing fish had a little not a – it's different than rot. Daytime, you look up and you see a lot of man o'war birds, all bird activity, looking around and then you can see dead fish. And you have to be careful because they will float along way.

Interviewer 1: Uh-huh.

Tom Marvel: Some of them are just so ragged, they're just, you know, they're all fuzzy, a week floating or whatever, you know.

Interviewer 1: What species that they'd kill?

Tom Marvel: Again, it's the grunts, not catfish offshore, grunts, king fish. So a big shot of threadfin herring, one day which surprised me in this pocket of, you know, a threadfin or a thread herring. I mean, just thousands of them, just it was unbelievable. [00:58:00] And, I actually don't recall seeing that many threads, it just gobs of them. But then once the shore was cleared up by February, you know, the bait seemed to pop right back up in there. But now, the guys charter boats and stuff that go out to do fishing, they say inside of 20 miles, it's just nothing.

Interviewer 2: Yeah.

Tom Marvel: And the friend of mine Randy bottom fishers, he still gets live bait on his way out, he is alive well. And he usually stops his last trip in 60 feet of water little gold hooks and they get, you know, 100/200 little grunts and whatnot pins. He couldn't even catch them. He stopped, after we've stopped. The water was great, you know. But they're junky. Well, the weather wiped the bottom out a lot.

Interviewer 1: Yeah, did you – so, did you hear this year anything about there being kind of a dead zone on the bottom or?

Tom Marvel: You hear that stuff. I always just counted, but I hear, I don't put much faith in comments people like, unless it's someone I know, one I trusted. But yeah, diver went out and said everything system covered with a brown scar or something.

Interviewer 1: Uh-huh.

Tom Marvel: No idea. Someone said that. Someone else said, if you go down there's two feet of solid grouper all over the bottom.

Interviewer 1: Do you...?

Tom Marvel: But, I mean, you could send someone down some of this bottom, just wicked lively and just see things [indiscernible] [00:59:18]. Take someone 20 minutes to ask and think what it looks like, you know.

Interviewer 1: So, why do you think that this last red tide event lasted so long?

Tom Marvel: Why did it last so long?

Interviewer 1: Why was it different than kind of, a lot of them?

Tom Marvel: I think it was different before, because my guess is it, just was a perfect confluence – is that the right word?

Interviewer 1: Sure.

Tom Marvel: Confluence?

Interviewer 1: Uh-huh.

Tom Marvel: That works? Events, I think that arm up basically ripped every leaf off of every tree south of the valley [indiscernible] [00:59:55]. Those leaves fell to the ground. We had so much rain water [01:00:00]. It basically had to have flooded at least in our area every septic tank there is and everything was under two feet of water, 18 inches. I know septic tanks and they would bubble up and it's, people get infections and stuff. So we had a ton of water, a ton of organic matter and all that stuff had to make its way down. And it just make through the [indiscernible] [01:00:23]

Interviewer 1: [Indiscernible] [01:00:25]

Tom Marvel: [Indiscernible] [01:00:25] So, we're even you did checked I'm wrong. And I helped you out.

Interviewer 1: Yes.

Tom Marvel: Kind of nicely.

Interviewer 1: Yes.

Tom Marvel: And, that's my guess. You know what I mean? So, after this hurricane, there's not a leave falling of tree. That's organic soup when it put it in water and when it sinks. Of course, septic tanks speak for themselves.

Tom Marvel: Do you think there's any changes in management or other measures that you think would help or anything?

Tom Marvel: Well, everyone blames the discharge of the lake, I mean, that standard. And most people would agree to that and I have no objection to agreeing to that. I mean, the water comes streaming on the Caloosahatchee and the brown water, I told you we used to see and stuff. It seemed always to be worse right in here you go south a little bit and it's clean, you go down here, it's clean, go down here, it's clean and here's the Caloosahatchee River. So that, you know, I have nothing to say that would dissuade you from thinking or doing that, you know. And, that's an unnatural dumpage. I mean it just, you know, it never, was never dumped that much water. I don't think the ditch wasn't even there, the watershed for this was this side of the lake I believe, the Estero base in Peace River, all this stuff, you know.

Now, we are taking stuff and stuff like swimming and come through the lake and over. But we've been – they've been doing discharge for a long time, but it's in the fall and we have a lot of rain and that's when I said I see this stuff in the fall.

Interviewer 1: Uh-huh.

Tom Marvel: And, you can actually see [01:02:00] river water quite a ways out which is longer than it should, that's a, you know, brownish water. You know, fresh water floats over salt water. So if you discharge it they, you know, conceivably you would see it go out further than just rides over the salt water.

Interviewer 1: Yeah. So, even some of this yellow water you are talking about, you are not sure what causes it but do you think that it might have something to do with the discharge?

Tom Marvel: I almost have to think it's a nutrient, it's a bloom. Right?

Interviewer 1: Right.

Tom Marvel: So, I mean, you tell. I don't know if I mean bloom needs nutrients, sunlight. The nutrients, it could be part natural. Like I said, the water, it's coincides almost always with the fall. I say the flipping of the water but maybe it only flip lakes. I don't know if oceans and gulfs can flip.

Interviewer 1: Uh-huh.

Interviewer 2: Yeah, yeah. You're right. Then you can change if the water mixes the stratification lessens and...

Tom Marvel: Yeah.

Interviewer 2: Yeah.

Tom Marvel: But I don't know with a sloping thing if your cold bottom water is always going out and you don't have as much, but you do have stratification. Any divers that goes out 50 foot or it's totally on the bottom and the top.

Interviewer 2: Yeah.

Tom Marvel: And all summer, that top just cooks, cooks, cooks. It gets to 88, 89, 90 degrees. And October 20th you get this first shot of 50 degree air, chills that water, that water sinks and boomed. And that's what I've always thought did that.

Interviewer 1: What do you think about the future of this area, and fishing in Naples? Do you think that we are going to see another brought red tide here? Do you think it's going to occur? Or do you have any ideas about as well?

Tom Marvel: No, I think there's enough attention being played to it. And there has to be a discharge aspect to it, which people are going to have to start addressing that or will.

So I don't think it's the end of the world. I think what seas doing is more important actually. Unless those two things are tied together, they are tied together and it's the same question.

Interviewer 1: Yeah.

Tom Marvel: But as far as I'm concerned, the grouper if it's not related to the red tide event, to me, this is bizarre. [01:04:00]

Interviewer 1: Uh-huh.

Tom Marvel: I think this bottom out here will eventually recover. But if we have these things every year, then it's just like, you know, if you break your leg once in six months, it's healed, but if you break it every year, you basically going to have your life being cripple.

Interviewer 1: Yeah. So, anything else that you want to add about water quality or red tide or algae blooms or any other information that you think we should know?

Tom Marvel: Yeah, I think that what bothers me is the red tide is all the prize.

Interviewer 1: Yeah.

Tom Marvel: And obviously kill stuff but nine out of 10 junk that we see out there is this yellow water, this brown water, the black water even is non-red tide.

Interviewer 1: Uh-huh.

Tom Marvel: The red tide, everyone, you know, because most of the people live on land and go to the beach and red tides, I think for the most part coastal, the dead fish washed up on the beach and everyone goes ballistic, which maybe is fine, you know. But it's this, the larger hard looking water is more alarming to me than the isolated and transparent. You go up to St. Pete and do this interview and clear what are those. Those guys would tell you something different thing.

Interviewer 1: Yeah. No, we've definitely been out there and talked a lot and discussed with them.

Tom Marvel: And I think just as a kid, I mean, not as a kid but it always seemed like its worse to them.

Interviewer 1: Yeah.

Tom Marvel: There were guys talking about going up to 60, 70, 80 feet of water and a solid dead fish they could see. You know, long time since I've seen anything like that.

TomMarvel

Interviewer 1: Uh-huh. Sky, do you have any questions?

Interviewer 2: I don't think so. I think we pretty much covered a lot of.

Interviewer 1: Uh-huh.

Tom Marvel: Girls don't do birds. Do you?

Interviewer 2: Yeah, I love birds. I'm hearing that there...

Tom Marvel: And you'd kind of love woodpecker?

Interviewer 2: Yeah, I love that one. I see that one all the time. I know him. Actually, I think I saw a pleated when we were driving over here.

Tom Marvel: You do?

Interviewer 2: Yeah.

Tom Marvel: On that wing you should have.

Interviewer 2: It's like a huge, you know, they're only the biggest woodpecker.

Tom Marvel: Yeah.

Interviewer 2: But yeah, it's was like pleated.

Tom Marvel: And, I have the rose ring parakeet is also here. And it lives in that tree, I'm a birdman. So that's what I'm doing.

Interviewer 2: I'm at novice, I literally love birds.

Tom Marvel: I'm at novice too.

Interviewer 2: I cannot, I can never distinguish the little guys.

Tom Marvel: Oh, that's where the fun starts.

Interviewer 2: I don't know, but I just can't, you know.

Tom Marvel: You have to focus. If you spend a fraction of the time you spend point over red groupers study and the little brown birds, you can just talk about.

Interviewer 2: Yeah, I'm very good at the wading bird.

Interviewer 1: I got them down.

TomMarvel

Tom Marvel: And they sit still. They're okay. And you do sandpipers?

Interviewer 1: No. Yeah, some.

Tom Marvel: You make the challenge for yourself more.